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TENNESSEE TIMBER TRENDS

Tennessee has more timber--both pine and hardwood--than it did a decade ago, according to a new survey of the State's forest resources.

The inventory in sound, well-formed trees at least 5 inches in diameter now totals 7 billion cubic feet. Volume of softwoods increased 33 percent since the previous survey of 1950. Hardwood volume gained 22 percent.

The volume in trees large enough to yield lumber is 20 billion board feet. Softwood volume in such trees rose 37 percent, hardwood 18 percent. Another promising aspect of the forest situation is the volume gain, some 15 percent, in hardwoods 18 inches and larger in diameter. Improved fire protection, less timber cutting for domestic use on farms, and more widespread timber management are largely responsible for the increase. Forest management programs have been expanded and intensified in many parts of the State, especially on public and industrial holdings. Public agencies and forest industries are also offering technical aid to owners of small forests.

The survey shows that commercial forests occupy 13.4 million of the State's 26.5 million acres. This is 9 percent more forest land than there was in 1950. The increase is mainly due to reversion of farmlands to forest. A full report of the survey is available on request. --H. S. Sternitzke.

FOREST LAND ASSESSMENTS RISING IN LOUISIANA

Between 1954 and 1961 the average forest assessment in Louisiana rose nearly 15 percent, from \$5.08 to \$5.82 an acre. Rises occurred each year except in 1959. The 1954 Louisiana Forest Taxation Law limited future increases in ad valorem assessment to bare land. Previously assessed timber values can, however, be included.

Cypress land valuations rose most, with an average increase of 37 percent for the seven-year period. Hardwood land and pine land other than longleaf both experienced rises of more than 20 percent. Average assessments of longleaf pine and miscellaneous lands decreased somewhat.

In Louisiana much timberland is classified as miscellaneous land. Each year since 1954 this acreage, though declining in assessed value, has averaged higher than that in the forest categories. Pine, hardwood, and cypress lands have consistently followed in that order. Statewide assessments in 1961 averaged \$11.77 per acre for miscellaneous, \$5.90 for longleaf pine, \$5.72 for other pine, \$5.39 for hardwood, and \$3.06 for cypress lands. Parish averages ranged from a low of \$1.50 per acre for cypress land to a high of \$106.54 for miscellaneous.

From 1960 to 1961, average forest land assessments increased in 46 parishes and decreased in 17. Only 3 pine parishes had decreases. Plaquemines and St. Bernard Parishes had the highest and lowest 1961 averages: \$76.55 and \$1.82 per acre respectively.--*William C. Siegel.*

ALABAMA WOOD-USING PLANTS

A survey of Alabama forest industries found 672 primary wood-using plants operating in 1961. Sawmills alone made up 555 of the total. In 1946, when the last complete sawmill census was made, 3,030 sawmills were active. The losses were mostly among small, generally portable, mills. Large mills--those cutting at least 3 million board feet annually--decreased in number from 83 to 74, but average annual output per large mill rose 36 percent.

The capability of the State's wood-pulp industry has risen nearly threefold since 1951, when nonlumber plants were last canvassed. Daily pulping capacity of Alabama's nine pulp mills is now 5 thousand tons, or 10 percent of the South's total capability.

Between 1951 and 1961, 16 new wood-preserving plants were constructed. Of the 24 establishments now operating, 20 are pressure-type plants. During the same period, the veneer industry shrank from 42 to 34 plants. Alabama's forests are also supplying 7 cooperage operations, 34 dimension mills, 7 charcoal plants, 1 excelsior firm, and 1 roundwood chip operation.--Joe F. Christopher.

1962 SUMMER DROUGHT LOWERS MOISTURE IN LIVING FOLIAGE

Living vegetation in the West sometimes becomes dry enough to burn readily, thereby vastly increasing forest fire hazard. Southern woody plants apparently seldom, if ever, experience such extreme desiccation without dying. Nevertheless, during Louisiana's extended summer drought in 1962, moisture in the leaves of 3 deciduous and 1 evergreen species dropped greatly, then recovered quickly after rain.

Leaves of 5 species common to west-central Louisiana were sampled after a month with no measurable rain and again 2 weeks later, after 7.5 inches of rain. Moisture contents, based on oven-dry weight, were:

	Aug. 24	Sept. 6
	- - Percent - -	
French mulberry (<i>Callicarpa americana</i> L.)	83	212
Yaupon (<i>Ilex vomitoria</i> Ait.)	78	136
Flowering dogwood (<i>Cornus florida</i> L.)	86	116
Southern red oak (<i>Quercus falcata</i> Michx.)	84	101
Waxmyrtle (<i>Myrica cerifera</i> L.)	127	132

Although living foliage did not attain a readily flammable condition, such reductions in moisture content can represent many gallons of water per acre that need not be evaporated by fire (interestingly, waxmyrtle, the most flammable species locally, retained the most moisture through the dry period and recovered the least after rain). Heat not required to evaporate water is available to damage living plants and to dry out and ignite more fuel.

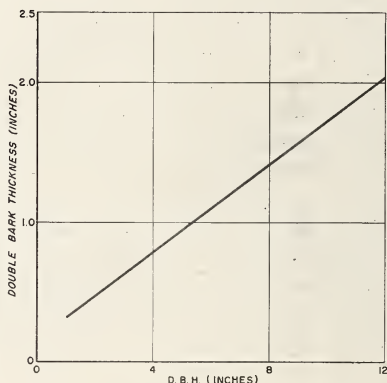
Foliage of French mulberry was drooping and flaccid on August 24; by September 6 it had resumed normal attitude and turgidity. Many leaves of flowering dogwood were dying from the margins inward; rain arrested the dieback. Drooping French mulberry and dying dogwood leaves appear to be potentially helpful indicators of serious growing-season drought. No other fully satisfactory measure of drought intensity is available.--George R. Fahnestock.

BARK THICKNESS IN TENNESSEE LOBLOLLY PLANTATIONS

Estimates of double bark thickness, based on diameter at breast height, are accurate enough for cruises and growth studies in loblolly pine plantations on the Cumberland Plateau in Tennessee.

Measurements of 326 trees on 35 plots in 5- to 25-year-old unthinned plantations indicated that double bark thickness in inches is equal to $0.17 + 0.156D$, where D is d.b.h., outside bark, in inches (see graph).

An F-test showed that this linear regression was highly significant ($r^2 = 0.9694$). Estimates from this equation are higher than those from C.O. Minor's equations for loblolly pine in the Florida Parishes of Louisiana (LSU Forestry Notes 1, 1953). For a 10-inch tree, Minor's formula indicates a double bark thickness of 1.22 inches while this regression gives 1.73 inches. Loblolly pine



apparently has thicker bark on the Cumberland Plateau than on the Louisiana coast.--James D. Burton.

RECENT PUBLICATIONS

- *Croker, Tom. *Fifteen years of management on the Escambia Farm Forestry Forty*. Southern Forest Experiment Station, 4 pp.
- *Davis, K.P., Briegleb, P.A., Fedkiw, J., and Grosenbaugh, L.R. *Determination of allowable annual timber cut on forty-two western national forests*. U.S. Dept. Agr., Forest Serv. M-1299, 40 pp.
- *Grigsby, H.C. *Propagation of loblolly pine by cuttings*. Plant Propagators Society Eleventh Annual Meeting Proceedings, pp. 33-35.
- *Guttenberg, Sam. *Computer programs of interest for the pulp industry*. Paper read at meeting of American Pulpwood Association, Southwestern Technical Committee, 5 pp.
- *Powers, H.R., Jr., and Verrall, A.F. *A closer look at Fomes annosus*. *Forest Farmer*, September 1962, pp. 8-9, 16-17.
- *Southern Forest Experiment Station. *The Southern Institute of Forest Genetics*. 38 pp.
- *Sternitzke, H.S. *Tennessee forests*. Forest Survey Release 86, 29 pp.
- *Sternitzke, H.S., and Christopher, J.F. *Trends in southern hardwood production*. *Pulpwood Production*, March 1962, p. 24.
- *Williston, H.L. *Hardwood brush control with foliar sprays*. *Mississippi Farm Research*, April 1962, pp. 4-5.

*Copies are available at the Southern Station.